Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

A PARTIAL BIOGRAPHY OF THE GREEN LIZARD.

BY SARAH P. MONKS.

THE green lizard *(Anolis principalis)* of the Southern United States is sometimes called the American chameleon, but it is not related to the chameleon of the Old World.

Its changeable coat, however, gives it a popular right to the name. Two specimens of Anolis that I have kept for months in a wire-cloth cage, have shown some interesting habits.

The female came from South Carolina in November, 1879, in good condition, but with the greater part of the tail wanting. She was placed in a small cage and supplied with flies, but refused to eat. During the winter the cage stood among house plants, in a room heated by a furnace, and although she was lively and ran around a good deal, she ignored the flies. Thus she remained without food and water (except an occasional drop that fell by accident when the plants were watered) for four or five months.

But when the warm spring days came, she greedily devoured the flies, and when water was sprinkled in the cage, she eagerly lapped it up with her tongue. It is said that the Old World chameleons drink in the same manner. She would not notice water that was in a small jar in the cage, although very thirsty.

Sometimes when I approach the cage she lifts her head and opens her mouth. I do not know whether she is conscious of asking for water, but I soon recognized this as an indication of thirst. In April a new tail began to show itself, looking like a small black wart, and since then it has grown nearly an inch. At first it was distinct and looked like a graft on the other portion, but now, after several moultings, it is continuous, although it can be easily distinguished from the rest; the scales are smaller, it always remains darker than the rest of the body.

About the middle of May another and larger specimen, a male, came from South Carolina, and I put them in a large box in which were twigs and a stick of wood. After the larger one had dined, their antics on seeing one another were exceedingly amusing.

First, one would raise itself to the full extent of its front legs, and bow its head and the fore part of its body in a regular and dignified manner. It worked as though there was a hinge joint at the shoulders. Then the other would repeat the gesture. The male, when bowing, erected a small nuchal crest, and after several bows, held its head still and stiff and distended a dew-lap.

This expansion, of which ordinarily there is no trace, is not inflated, but is a flattened disc about an inch in diameter. It is orange-red in reflected, and crimson in transmitted light. At this time the lizard is a beautiful sight, the body being green above and white below, and the vivid dew-lap edged with white.

I have seen them bowing several times, but they scamper off on finding themselves watched; and even in the midst of their ceremonious courtship, if a fly comes near they dart after it like a flash of green light.

There is a difference in the change of color in the two specimens, and the same cause does not affect them alike. The female, in the day time, is generally dark-brown, or drab, speckled with white, and has a lighter dorsal line. Sometimes, however, she is grayish. When very dark, even the under side is brown, but when lighter colored the under side is gray, or white. But at night she becomes some shade of green, rarely a pale-green. Once or twice during July I have seen her green in the day time. On the other hand the male is generally pale-green. Their colors are different shades of green, yellow and brown. When changing, the coming color does not suffuse the entire body at once, but first appears on the legs and sides of the head and the body, the dorsal line and tail often remaining darker long after the other parts are light-colored.

When they are green, yellow, or drab above, they are white below; when dark-brown, a lighter shade of the same color below; and sometimes I have seen them a uniform dark brown. Occasionally, the light-green color remains on the eye-lids and a few scattered scales of the body, after the other portions have become brown. They do not always grade regularly from brown, through yellow, to green, but sometimes change from dark-brown to pale-green and white, without showing yellowish. The bronze (yellow) is the rarest color, and is very seldom assumed by the female. They change from one color to another in from two to eight minutes, and one changed from green to light-brown, then back to green again, in five minutes.

I see no reason, as yet, for this changing of color, for it comes regardless of the object on which they are placed, or amount of light and darkness. They become green or light-brown when placed in sun-light, but also assume the same colors in the darkest room. When disturbed, they sometimes get darker, and at other times do not change. Nor do they always appear conscious of a disturbance when a change of color occurs, since I have turned the cage towards artificial light, and found the lizard sleeping and of a green color. In less than two minutes it was dark-brown, and still apparently sleeping. Another time a light held near the cage did not cause one to open its eyes, but in less than thirty seconds a brownish tint had taken the place of the green.

My observations on color-changes have been contradictory and unsatisfactory. The lizards enjoy the sun-light and remain basking for hours motionless, except for their rolling eyes, which notice everything. They go to sleep as soon as it becomes dark, and are not easily disturbed. They also go to bed when a storm brings darkness, and wake again when the sun appears, although not exposed to its direct rays. They are sensitive to degrees of light, but how direct sun-light and darkness can affect their skins and produce the same color-change is a puzzle.

They have several ways of sleeping. Sometimes they lie close up under a bit of loose bark (this is generally on cool nights, or when left out of doors later than usual); at others, they curl in a sigmoid shape in a corner behind a small jar; and at others they stretch out straight and stiff along a limb or among the twigs. And their sleeping habits are the most interesting of any I have noticed. When they are in a crevice, or hole, they take any shape that is convenient, but when on sticks and twigs, they arrange themselves so as to imitate the general form of the branches. In the cage there are some irregular twigs and a small horizontal stick. When on the horizontal piece the lizard stretches itself out straight, with its forelegs pressed closely to the body, and the hind legs and tail so straight along the branch that the bend of the knee shows as a dimple. When sleeping among the twigs it is arranged, head downwards, on the largest, with its forelegs close to the body, but the hind legs spread out at different angles. Often one leg will be straight and the other bent, at other times both have the same bend, but always resembling the branching of twigs. They so closely imitate this when they are dark-brown, that often, at first, before I learned their tricks, I would search for them all over their cage, fearing they had escaped.

The lizards are fond of flies, often snapping up eight or nine, one after the other, as quickly as they can swallow them. I saw one once with two flies in its mouth preparing to catch another.

I never saw them protrude the tongue to catch them. Sometimes, with slightly open mouth, one will creep cautiously towards a fly and seize it with a quick snap, at others they will jump twice their length and catch it. They feed at night if near a bright light. I tried to feed mine with rose bugs (*Macrodactylus subspinosus* Fab.), of which our supply this year has been much greater than the demand, but they refused to have any thing to do with the spiny creatures. After catching a fly they generally move it around in their mouths, seeming to crush and moisten it before swallowing.

In shedding their skins they differ from snakes and such salamanders as I have seen exuviate. The skin splits along the back, and the upper sides of the legs, and comes off in large fragments. It is loose on the legs and tail first; the lizard seizes a bit in his mouth and pulls it off his feet like an inverted glove; then he eats it. Pieces that he scrapes off against the branches, he does not trouble himself to collect as food. It seems a difficult matter to remove the old skin from around the jaws and eyes; I have seen them rub and scratch a good deal and still wear tatters of their old garments around the head for several days after the rest of the body was polished off. I saw one once kick many times at an annoying piece on its head with its hind foot in much the same way a cow will try to scratch her head. He would curve the body and give a vigorous scratch or two, then quickly turn the other side and use the other foot.

When the tail has been broken off and renewed, it skins independent of the rest of the body.

I do not know if there is a regular time for changing skin, but suppose it depends on the general health and the growth of the animal. One of mine changed twice in seventeen days, and the other only four times in five months.

I have found three eggs in the cage at different times, but they soon shriveled up and amounted to nothing.

My specimens occasionally get in the corners and dig at the wires trying to scratch their way out, but generally they seem contented, enjoy basking in the sunshine, and watch me closely with their quick brilliant eyes as though they knew I furnished them with food. *July, 1880.*